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—ABSTRACTS FROM THE TRANSACTIONS—

STUDIES ON THE FIBRILL AND SPIRAL STRUCTURE
OF NEW STAPLE FIBER.

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Cotton (Fig. 1) and wood pulp (Fig. 2) fiber are constituted from the fibrill and spiral structure. This constitution shows the excellent character of textile as cotton fiber. However the staple fiber which is prepared at present has not such a structure and for that reason these fibers show many weak points in the case of use as a textile.

But the special staple fiber "Toramomen" consisting of the high polymerised cellulose molecule which is invented at the Asahi Bemberg Silk Company Ltd. Otsu Factory, and manufactured from the special viscose process, show distinctly the fibrill and spiral structure of the same kind as the raw material, pulp short fiber and cotton. (Fig. 3).

For this "Ability of Formation" and "Durability" of its fiber as a textile it is remarkably better than all others.

Especially the extraordinarily high polymerised viscose staple fiber which was prepared from linter shows the wonderful regular spiral and strong fibrill as Fig. 9.

In this research the method was adopted for the investigation of fibrill constitution that the sample was given the impingement and observed the individually separated fibrill with the ordinary mikroskop of ab. 240 magnifications.

In each Figure for A is given the slight treatment and for B is given the strong treatment. A₂ and B₂ are a polarisation photograph.

Table 1 is the illustration of each sample and shows the strength, elongation, ratio of wet per dry strength, and strength in 6% NaOH by the Deforden test.

I believe that the strength in 6% NaOH and the W/D are one of the data to display the effective value as a textile of staple fiber.

(Asahi Bemberg Silk Company Ltd., Otsu Factory)

Table 1.

Fig.	Illustration of Sample	Denier	Strength and Elongation Test by Deforden					
			Strength		W/D	Elongation		Strength in 6% NaOH
			Dry	Wet		Dry	Wet	
Fig. 1.	Cotton (China Cotton)	(d) 3.14	(g/d) 3.42	(g/d) 3.29	(%) 96	(%) 8.2	(%) 8.7	(g/d) 2.80
Fig. 2.	Pulp fiber	—	—	—	—	—	—	—
Fig. 3.	Special Staple Fiber "Toramomen" (Manuf. by Asahi Bemberg Otsu Factory)	1.46	3.80	3.30	87	11.4	13.2	1.75
Fig. 4.	Curled Staple fiber (Two Bath method)	1.52	3.01	2.12	70	18.4	31.2	0.66
Fig. 5.	Duraflox (German Glanzstoff)	1.34	3.11	1.98	64	22.4	27.4	0.72
Fig. 6.	Ordinary Staple Fiber (One Bath method)	1.51	2.74	1.48	54	24.3	32.1	0.52
Fig. 7.	Bemberg Rayon (Manuf. by Nobeoka Factory)	1.28	2.10	1.29	61	12.2	13.4	0.55
Fig. 8.	Xanthate Spinn Fiber (Otsu Laboratory)	1.42	3.25	1.94	60	10.7	14.6	1.47
Fig. 9.	Extraordinarily high Polymerised Staple Fiber Raw material-Linter (Otsu Laboratory)	1.43	4.20	3.96	49	8.7	9.2	2.03
Fig. 10.	Polyvinyl alcohole Fiber (Otsu Laboratory)	3.06	2.09	1.56	75	30.7	45.9	1.24

Fig. 1. China Cotton

Fig. 2. Pulp short Fibre

Fig. 3. Special Staple Fibre "Toramomen"
(High Polymerization)

Fig. 4. Curled Staple Fibre.
(Two Path Method)

Fig. 5. Duraflax

Fig. 7. Bemberg Rayon

Fig. 6. Ordinary Staple Fibre

Fig. 8. Xanthate Spinn Fibre (Two Bath Method)

Fig. 9. Extraordinary high Polymerised Stable Fibre
(Raw Material-Linter)

Fig. 10. Poly-vinyl alcohol-acetal Fibre

HERSTELLUNG DES ZELLSTOFFES IM SALPETERSÄUREAUFSCHLUSSVEFRHPEN

(23. MITTEILUNG)

Bleichen des Kraftzellstoffes mittels des Salpetersaureverfahrens

Von Isao Shimoda

(Eingegangen am 25. Juli, 1942)

Die Schwierigkeit beim Bleichen des Kraftzellstoffes kommt daher, dass das zurückgebliebene